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Statement of
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Subcommittee on Oversight and Investigations
House Energy and Commerce
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Thank you for the opportunity to address the subcommittee about the trans-Alaska pipeline and Alyeska Pipeline Service Company. My name is Kevin Hostler and I am the President & CEO of Alyeska Pipeline Service Company. I am here today representing the 1600 people who operate and maintain the Trans Alaska Pipeline System – or TAPS. Our company was founded in 1970 to design, construct, and operate TAPS to safely and efficiently move oil from the North Slope of Alaska through the Valdez Marine Terminal 800 miles to the south. Alyeska Pipeline Service Company is owned by a consortium of five companies: BP Pipelines (Alaska) Inc., ConocoPhillips Transportation Alaska, Inc., ExxonMobil Pipeline Company, Unocal Pipeline Company, and Koch Alaska Pipeline Company.

I am here today to discuss two important issues: to provide the committee with assurance about corrosion prevention on TAPS through our integrity management program; and to provide insight into the challenges we may face due to reduced throughput in the TAPS mainline and how we will manage these challenges.

I will also explain how Alyeska has been involved with managing any potential solids generated by Prudhoe Bay oil field pigging operations.

The issues outlined in this testimony are important to me, our employees, and our stakeholders. I take seriously the responsibility I have to run a safe operation that is properly maintained to transport the oil we receive. Safety is our first priority in resolving the issues we currently face.

Since the March 2006 Prudhoe Bay spill by – and continuing through the August spill and production shutdown, we have offered our assistance to and worked with BP Exploration Alaska Inc. (BPXA) on a wide range of operational issues. We have offered response personnel and equipment; we received a technical briefing on the root causes of the March spill; conducted and then shared our impact assessment analysis of the impact of potential pigging solids being introduced into the TAPS mainline; discussed various options to address these solids; and completed construction of a bypass line to offer a method to receive and process any solids generated by Prudhoe Bay pigging activities.

CORROSION CONTROL AND INTEGRITY MANAGEMENT ON TAPS

Alyeska has not found evidence of accelerated corrosion in the TAPS mainline. After the Prudhoe Bay spill in March, our operations and engineering personnel

reviewed our corrosion control program and have been implementing enhancements identified during this review.

When I learned that the apparent cause of the spill was corrosion, I asked my integrity engineering staff and my pipeline operations staff to provide me with assurance that accelerated corrosion was not a threat to TAPS integrity and what additional precautions, beyond our existing program, should we undertake. This technical group held a brainstorming session to think through all of the potential impacts to TAPS based upon what we knew about the March spill. From this we created a Top Ten list of issues we should pursue from an integrity perspective. The review verified we have a solid corrosion control program and did not identify any immediate corrosion related threats to TAPS. Alyeska staff are making satisfactory progress on the issues in the list. I have shared this list and a status matrix with committee staff. I will answer any questions from the subcommittee about this list.

Specific to potential accelerated corrosion on TAPS similar to what BPXA reported, the first place we believe we would see this type of corrosion would be in the piping at Pump Station One. As part of our Top Ten list, we added several new corrosion monitoring locations at Pump Station One, including the deadlegs at the station. Deadlegs are sections of pipe inside the Pump Stations that have no active flow. As an additional precaution we have increased our corrosion inhibitor injection volumes by about 25% throughout the system.

It is important to note that TAPS generally benefits from the co-mingling of the oil from all of the North Slope fields before they enter the mainline. In addition, TAPS benefits from a velocity in the mainline that is greater than the lines feeding into the system at Pump Station One. This multi-field mixing action and velocity reduces the risk of sediment and water from dropping out of the oil stream. This is worth noting because standing water is where we would most likely encounter significant internal corrosion in TAPS.

Also of note from our Top Ten list, we moved forward our 2007 smart pig run to 2006. The first part of the TAPS mainline was pigged the first week in August and the remainder of the line will be pigged by the end of the year. I requested that the data from this pig run be analyzed expeditiously so that we can compare it with the 2004 data to determine if additional integrity actions are necessary. Since the startup of TAPS we have run 60 inline inspections. This 2006 pig run will be the 61st smart pig run on TAPS. These smart pigs have identified minimal pipe wall loss due to internal corrosion. Alyeska has not identified any wall loss due to corrosion that exceeds Alyeska's internal criteria for wall loss, which is stricter or more conservative than the federal DOT regulatory criteria.

While we have a lot of faith in our pigging program based upon nearly 30 years of experience, we do continue to challenge ourselves to make sure we are evaluating the right things on TAPS. It is a process of continuous improvement.

Alyeska analyzes the pig run data for anomalies. From this our engineers make recommendations about what sections of the pipeline should be physically looked at for additional validation and possible repair. This is what we call our integrity investigations. We investigate sections of the pipeline – above and below ground – to determine the significance of anomalies, including corrosion in those areas. Based upon this assessment the appropriate corrective actions are taken, including repairing the section of pipe with a sleeve. Since initial startup of TAPS operations in 1977, we have made 656 below ground investigations and 293 above ground investigations.

We run a cleaning pig through the entire pipeline every seven to fourteen days. A cleaning pig pushes wax, water, and sediment that may accumulate within the pipeline down the line for removal. Further, as throughput declines this will be an even more important tool because it will remove water that may drop out of the crude oil at slower velocities.

In addition to pigging and integrity investigations, our corrosion control program also includes the following:

- Corrosion inhibitor is injected in the deadlegs at the pump stations and Valdez Marine Terminal every two weeks. Deadleg corrosion management is not new to us. We have had a deadleg corrosion

program since the early 1990's. This program includes a manual ultrasonic inspection of the dead legs on a regular basis. The frequency of the investigations is based on engineering analysis and calculated corrosion rates.

- Buried pipeline sections were coated and wrapped with tape to protect the steel from the environment. (Aboveground pipe has minimal external corrosion risk.)
- A cathodic protection (CP) system passively and actively protects the below ground pipe from external corrosion. The passive CP system uses sacrificial zinc and magnesium anodes which preferentially corrode, thus protecting the pipeline from corrosion (similar to the zinc anodes in home water tanks). The active system applies electrical current to the pipeline to prevent corrosion. 680 CP coupons and 1018 CP test stations are placed along the pipeline to provide a way to measure CP effectiveness. Cathodic protection monitoring including CP coupons and close interval survey verifies the system data. This survey is performed on one-third of the pipeline each year. Areas failing to meet CP criteria are either mitigated or if of a minor nature, the system is electrically adjusted and resurveyed the following year. We are working with the DOT to assess low CP readings on the last 20 miles of the mainline to determine appropriate remedial actions.
- Our facilities corrosion monitoring program includes the use of coupons to assess and monitor internal corrosion rates.

Alyeska's corrosion control program is annually monitored by the Joint Pipeline Office and is audited routinely by the DOT.

Our corrosion control program is a part of our Integrity Management Program. Alyeska operates its Integrity Management Program through a controlled document (IM-244) titled, "TAPS Integrity Management Program for High Consequence Areas". This is one of the first documents I read upon arriving at Alyeska and was impressed by the breadth and depth of our program. If you are interested in reviewing a copy of the program, I would be happy to provide it for you.

This document is subject to periodic inspections by the U.S. Department of Transportation Office of Pipeline Safety as a part of our DOT regulatory program. The DOT has inspected this program in 2002, 2003, 2004 and will do so again this October.

The Grant and Lease Right of Way agreements require Alyeska to have a comprehensive corrosion control program. Corrosion management is extensive and monitored by the Joint Pipeline Office to ensure we are meeting its requirements in addition to those of the DOT. JPO required Alyeska to develop a comprehensive approach to corrosion monitoring activities on TAPS and this

became the Corrosion Control Management Plan (CCMP) adopted in 2000. The CCMP has been incorporated into IM-244.

Alyeska's Integrity Management Program has the following objectives:

- Prevent leaks to protect public safety and the environment
- Comply with State and Federal regulations
- Manage risks – assess, prevent, or mitigate
- Preserve our assets thus providing reliable oil transportation
- Provide stakeholder assurance

We have a number of major elements within the Integrity Management Program for the mainline pipe. We also focus on internal corrosion on the piping in our pump stations and the Valdez Marine Terminal. The major elements of our Integrity Management Program are:

- Mainline pipeline inspection: Corrosion In Line Inspection; Curvature and Deformation In Line Inspection
- Cathodic Protection (CP): CP Monitoring; CP System Improvements
- Aboveground Pipeline Support System: AG Monitoring and Maintenance; Vertical Support Member Monitoring and Maintenance; Pipeline Bridges
- Valve Maintenance Program

- Right of Way Monitoring and Maintenance: ROW Monitoring and Surveillance; Rivers and Floodplain Monitoring
- Earthquake Preparedness: Earthquake Monitoring; Fault Monitoring; Seismic Design Control; Seismic Housekeeping
- Leak Detection System
- Overpressure Protection System
- Pump Station Facilities: Piping Systems; Tanks
- Valdez Marine Terminal Facilities: Piping Systems; Tanks
- Oil Spill Response and Contingency Planning
- Fuel Gas Line.

As you can see we have a commitment to a comprehensive, systematic, and documented approach to integrity management, including corrosion monitoring and mitigation.

Additionally, I want to stress that our program is primarily focused on preventing a leak. Should we encounter a pipeline discharge, we have also worked diligently to be prepared to respond to an incident. We have an approved oil discharge prevention and contingency plan (C-Plan) that guides our response efforts. The plan is reviewed and approved by four regulatory agencies: the Alaska Department of Environmental Conservation; the Environmental Protection Agency; the U.S. Department of Transportation; and the Bureau of Land Management. We also have a large inventory of contingency repair equipment

and materials that includes a wide range of replacement piping, stopples, and leak clamps. We exercise our personnel and equipment on a regular basis. It remains our goal through our Integrity Management program to avoid an oil discharge. However, I want the committee to know that we are prepared for an incident and can respond in a timely manner.

PRUDHOE BAY TRANSIT LINE PIGGING SOLIDS

Alyeska has constructed pipe and processing facilities at Pump Station One that will allow us to receive pigging solids from BPXA transit line pigging operations without exposing TAPS to unacceptable risks.

Upon learning about the potential for substantial solids in the Prudhoe Bay transit lines, I established a technical team to undertake a thorough risk assessment of the potential impacts from the solids to TAPS equipment, systems, and operations, and regulatory requirements. I asked them to determine if we could manage the solids in the mainline or into our tanks at Pump Station One. My priority was that any solution not adversely impact TAPS safety or integrity, nor the safe and efficient transportation of oil, which is our responsibility as a common carrier pipeline. The impacts assessment clearly raised concerns about allowing solids into the mainline and therefore I made the decision that we would not allow this to happen. We shared this position with BPXA and interested stakeholders in May.

Some of the concerns we had with the potential for a high concentration of solids that may be liberated in a short time period include: clogging and damage to strainers potentially resulting in a blockage; impacts and damage to meters; impacts or blocking transmitter and safety instrument devices that could result in an immediate shutdown of a pump station; solids potentially settling in station piping, valves and deadleg piping making it difficult to remove; impacts to pressure transmitters and leak detection systems; and potentially impacting valves and valve seats, drain lines, strainer baskets as the solids passed through each facility.

Since that time, we have been working with BPXA to determine the best path forward and at their request in August we constructed a temporary line to allow the solids to bypass Pump Station 1 piping directly from Skid 50 into a storage tank (Tank 110) for temporary storage and then removal and disposal. We will decant the oil received from the pigging operations through a line from the tank to our pump station. The solids will be processed via centrifuges and clean, marketable oil will be injected into TAPS for transportation to market. Remaining water and solids will be managed in compliance with federal, state and local laws. Tank 110 was scheduled for routine maintenance next summer and any remaining solids will be disposed of when we clean out the tank.

This bypass line and processing capacity should be operational no later than the middle of September.

As we were provided with updated information regarding the volume and constituency of the pigging solids in the various lines, we have been able to make appropriate decisions. We have approved of the pigging of those lines where we reasonably believe we can support the pigging without adverse impact to TAPS. An example of this is the pigging that proceeded with the Lisburne transit line. As BPXA ran more aggressive cleaning pigs through the Lisburne line we monitored our instruments closely to ensure the pigging envelope did not push solids into our system. Prior to approving acceptance of Lisburne pigging solids we agreed that the estimates of the amount of potential solids would not adversely impact TAPS. BPXA Lisburne pigging commenced on June 10th and was concluded on June 16th with the running of a smart pig through the line. The data from pigging this line demonstrated that this was an accurate estimate and the data from this was incorporated into the estimates and analysis for the remaining transit lines.

Throughout this process there have been many meetings and discussions about the implications and impacts associated with solutions to address the potential for solids in amount that could cause adverse impacts on TAPS from the transit lines. Alyeska was researching two options that TAPS could perform and BPXA was exploring two options they could perform. The bypass line we constructed

has been our preferred option since we determined the volume of potential solids in the remaining transit lines would have an adverse impact if received directly into the TAPS mainline.

OPERATING TAPS AT REDUCED THROUGHPUT

Based upon technical reviews conducted to date, it is likely, although not certain, that Alyeska will be able to safely manage lower throughputs associated the partial suspension of Prudhoe Bay production. To do this, Alyeska will need to resolve several technical challenges outlined below.

Upon learning of the decision to shutdown the Prudhoe Bay field, I called up our Crisis Management Team and asked them to look at the short and long term issues this would have upon the operation of TAPS. For the short term, I wanted to know what issues we would face for significantly lower throughputs. My Oil Movements, Operations, and Engineering team put together a plan that would allow for continuous operations down to 400,000 barrels per day. The first night following the news, we ran the system at 500,000 bpd and the second night tested it at 400,000 bpd. While this is not an ideal operating situation our initial report is that it is workable.

We then began looking at the long term challenges this presents for TAPS and this analysis continues today. While we are confident we can operate normally

down to 500,000 barrels per day, we will face challenges as throughput drops below this rate. Among the more significant challenges we are currently evaluating are:

- Managing issues associated with cooler temperatures of the oil, particularly in the winter, and the potential for water and paraffin drop out from the oil;
- Managing the efficiency of the biological treatment process of our ballast water plant because of lower ballast water flows due to reduced tanker traffic to the Valdez Marine Terminal; and
- Managing the potential for increased vibration due to slack line conditions at the three mountain passes the pipeline must cross;

Alyeska technical experts are evaluating all of these issues to determine the full extent of the potential impacts upon TAPS. They are establishing appropriate mitigating plans for my management team to consider. From our perspective, we definitely have challenges in front of us due to the Prudhoe Bay shutdown. I also know that I have some of the best technical resources available for this situation. I want each of you to know that our decisions will be based upon the safe operation of TAPS and with no adverse impacts to the integrity of TAPS.

In conclusion, I wish to restate that we have not seen accelerated corrosion on TAPS. We have a healthy concern for the potential for increased rates of

corrosion and what that could mean to TAPS. I believe we have the right programs and people to address corrosion and integrity management on TAPS.

We will continue to work with BPXA on the best path forward regarding the pigging solids – one that does not compromise the integrity of our system. We have the right people assigned to this task and I trust their ability to accomplish this task safely.

And last, we share your concerns about operating TAPS at lower throughputs. We're looking at all of the potential impacts this will have on our system and will develop responsible plans to mitigate these impacts. I have qualified people working on these challenges and they understand my expectations that we proceed with the safety and integrity of our operations as our first priority. It is worth noting that our \$500 million dollar pipeline upgrade project will introduce significantly more flexibility into our ability to manage through a situation like the one we are facing today.

I thank you for this opportunity to discuss Alyeska and TAPS operations and welcome any questions you may have about our operations.